

## REMARKS

This Response is filed in response to the Office Action mailed April 14, 2008. Claims 28 through 59 are presented in the application. Claims 28, 36, 40, 53, and 57 are amended herein. Claims 45 through 52 are cancelled herein without prejudice.

The declaration of Dr. Jamie De La Ree is filed herewith evidencing the non-anticipation and non-obviousness of the presently claimed invention. Applicant submits Claims 28-44 and 53-59 are allowable over the cited references in view of the amendments and evidence filed herewith.

In the Office Action, the Examiner rejected Claims 40 and 47 through 49 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 28, 31, 36, 38 through 40, 45 through 50, 53, and 56 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 5,673,182 to Garner.

Claims 28, 36, 38 through 39, 41, 43 through 44, and 53 through 56 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent 2,734,859 to Reilly et al.

Claims 29 and 37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner and in view of U.S. Patent 5,909,359 to Summers et al.

Claims 30, 41 through 43, and 57 through 58 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner.

Claims 32, 34 through 35, and 52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner in view of U.S. Patent 5,888,623 to Katzer.

Claims 33 and 51 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner in view of U.S. Patent 5,595,416 to Horwill.

Claims 44 and 59 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner in view of German Patent 2352872 to Volpone.

Claims 29 and 37 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reilly et al. in view of U.S. Patent 3,803,570 to Barlow et al.

Claims 30, 40, 42, 54, and 57 through 59 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reilly et al.

Claim 31 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Reilly et al. in view of Japan Patent 411210271 A to Sagawa et al.

Claim 32 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Reilly et al. in view of U.S. Patent Publication 2004/0035602 to White.

Claims 33 through 35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Reilly et al. in view of U.S. Patent 6,146,576 to Blackmore.

### **Claim Rejections — 35 U.S.C. § 112**

The Examiner has rejected Claims 40 and 47 through 49 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which application regards as the invention. Claims 47-49 are presently cancelled without prejudice.

The Examiner has indicated that Claim 40 is indefinite because there is insufficient antecedent basis for the limitation “the seat.” In response to this rejection, the Applicant has amended Claim 40 to depend upon Claim 39 which provides the antecedent basis “a seat.”

As amended, Claim 40 has sufficient antecedent basis for the limitations and is believed to satisfy the requirements of 35 U.S.C. § 112, second paragraph. Withdrawal of this rejection is respectfully requested.

### **Claim Rejections — 35 U.S.C. § 102(b)**

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” MPEP § 2131, *quoting Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987).

The Examiner rejected Claims 28, 31, 36, 38 through 40, 45 through 50, 53, and 56 under 35 U.S.C. § 102(b) as being anticipated by the ‘182 patent to Garner. The Examiner rejected Claims 28, 36, 38 through 39, 41, 43 through 44, and 53 through 56 under 35 U.S.C. § 102(b) as being anticipated by the ‘859 to Reilly et al. Claims 45 through 50 are presently cancelled. Applicants respectfully traverse the foregoing rejections in view of the above amended claims and for the reasons set forth hereafter.

The ‘182 patent to Garner does not expressly or inherently describe a cross-arm “operable transverse the utility pole as horizontal support for aerial conductors in an electrical

distribution system,” as disclosed in Claims 28, 36, and 53. As stated in the attached Declaration of Dr. Jamie De La Ree, Garner ‘182 “discloses a support frame assembly for a standard peripheral component interconnect (PCI) card.” Declaration of Dr. De La Ree, Paragraph 9; ‘182 patent, col. 1, ll. 39-41. “The support frame assembly ‘controls or limits displacements (rotational and translational) along two axes of the circuit card.” *Id.*; ‘182 patent col. 1, ll. 34-36. “A bridging tie bar 50 is provided and includes the horizontal span 52 and the two legs 54 extending perpendicularly downward therefrom.” *Id.*; ‘182 patent col. 2, ll. 42-44. “The support frame assembly is fastened to the card 12 and to the bridging tie bar 50 with threaded fasteners.” *Id.*; ‘182 patent col. 1, ll. 55-60. Dr. De La Ree concludes, “Garner ‘182 does not disclose any subject matter relating to utility poles, utility pole cross-arms or power transmission lines of any kind, nor otherwise present any material helpful in solving the problem addressed by the claimed subject matter of the ‘740 application.” *Id.* Accordingly, the ‘182 patent to Garner does not disclose “each and every element as set forth in the claim[s],” and does not anticipate the presently claimed subject matter.

The ‘859 patent to Reilly et al does not expressly or inherently describe a cross-arm “operable transverse the utility pole as horizontal support for aerial conductors in an electrical distribution system,” as disclosed in Claims 27, 36, and 53. As stated in the Declaration of Dr. Jamie De La Ree, “Reilly ‘859 is a ‘Plating Rack’ and is particularly a ‘current conducting plating rack[] on which relatively small articles to be plated are supported in a plating solution.” Declaration of Dr. De La Ree, Paragraph 10; ‘859 patent col. 1, ll. 15-18. “Reilly ‘859 discloses improvements in the construction of a plating rack that comprise ‘an elongated rack body member or bar 1 to one end of which is connected a hook indicated generally at 2 to provide a means for suspending the rack in a plating solution.” *Id.*; ‘859 patent col. 2, ll. 21-26.

Additionally, the ‘859 patent does not expressly or inherently describe “an electrically insulatory coating capable of insulating the cross-arm from the electrical distribution system,” as disclosed in Claims 28, 36, and 53. Rather, the ‘859 patent teaches an electrical connection between the bar 1, each arm 12, the ends 24 of each arm, and articles to be plated and supported on the arms. See ‘859 patent, col. 3, ll 30. – col. 4, ll. 14. “[T]he ends 24 ‘of each supporting arm are exposed, that is, uncoated so that the particular articles to be plated and supported on these ends 24 will also make electrical contact with the arms.” Declaration of Dr. De La Ree, Paragraph 10; ‘859 patent col. 3, ll. 30-33. “Each arm 12 also has a contact pin 25 that makes

electrical contact with the metallic body of the bar 1.” *Id.*; ‘859 patent col. 4, ll. 5-14. Dr. De La Ree concludes, “Reilly ‘859 does not disclose any subject matter relating to utility poles, utility pole cross-arms or power transmission lines of any kind, nor otherwise present any material helpful in solving the problem addressed by the claimed subject matter of the ‘740 application.” *Id.* Accordingly, the ‘859 patent to Reilly does not disclose “each and every element as set for the in the claim[s],” and does not anticipate the presently claimed subject matter.

Since independent Claims 28, 36, and 53 are allowable over Garner ‘182 and Reilly ‘859 as presented herein, dependent Claims 31, 38-40, and 56 dependant upon Claims 28, 36, and 53 respectively also traverse the rejections of Claims 28, 31, 36, 38-40, 53, and 56 for anticipation.

### **Claim Rejections — 35 U.S.C. § 103(a)**

Independent Claim 57 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner ‘182 and alternatively as being unpatentable over Reilly ‘859. However, as previously addressed, neither Garner ‘182 nor Reilly ‘859 disclose all of the elements of the claimed subject matter and “[o]bviousness cannot be predicated on what is unknown.” In re Spormann, 363 F.2d 444, 448, 150 U.S.P.Q. 449, 452 (C.C.P.A. 1966).

The ‘182 patent to Garner does not disclose “aerial conductors in an electrical distribution system,” as required by Claim 57. As previously addressed, Garner ‘182 “discloses a support frame assembly for a standard peripheral component interconnect (PCI) card.” ‘182 patent, col. 1, ll. 39-41. The support frame assembly “controls or limits displacements (rotational and translational) along two axes of the circuit card.” *Id.* col. 1, ll. 34-36. “A bridging tie bar 50 is provided and includes the horizontal span 52 and the two legs 54 extending perpendicularly downward therefrom.” *Id.* col. 2, ll. 42-44. The support frame assembly is fastened to the card 12 and to the bridging tie bar 50 with threaded fasteners. *Id.* col. 1, ll. 55-60. “Garner ‘182 does not disclose any subject matter relating to utility poles, utility pole cross-arms or power transmission lines of any kind, nor otherwise present any material helpful in solving the problem addressed by the claimed subject matter of the ‘740 application.” Declaration of Dr. Jamie De La Ree, Paragraph 9.

The ‘859 patent to Reilly does not disclose “an electrically insulatory coating capable of insulating the cross-arm from the electrical distribution system,” as required by Claim 57. The

'859 patent to Reilly et al. in fact teaches an electrical connection between the bar (1), the arms (12), the ends of the arms (24), and the articles to be coated supported on the ends of the arms. See Declaration of Dr. De La Ree, Paragraph 10. As stated by Dr. De La Ree, "the ends 24 'of each supporting arm are exposed, that is, uncoated so that the particular articles to be plated and supported on these ends 24 will also make electrical contact with the arms.'" *Id.*; '859 patent, col. 3, ll. 30-33. "Each arm 12 also has a contact pin 25 that makes electrical contact with the metallic body of the bar 1." *Id.*; '859 patent, col. 4, ll. 5-14. "Reilly '859 does not disclose any subject matter relating to utility poles, utility pole cross-arms or power transmission lines of any kind, nor otherwise present any material helpful in solving the problem addressed by the claimed subject matter of the '740 application" *Id.* Reilly '859 in fact teaches away from the "electrically insulatory coating capable of insulating the cross-arm from the electrical distribution system," as disclosed in Claims 28, 36, 53, and 57.

"[W]hen [as here] the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious." KSR Int'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1740, 82 U.S.P.Q.2d 1385 (2007). "If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims prima facie obvious. In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959)." MPEP § 2143.01. Additionally, "[a]ll words in a claim must be considered in judging the patentability of that claim against the prior art." In re Wilson, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970)." MPEP § 2143.03.

Accordingly, Applicants submit that Claim 57 is patentable over both Garner '182 and Reilly '859. As Dr. De La Ree concludes: "I can state categorically that the information in those two patents does not show that the utility pole described and claimed in the '740 patent application was obvious to one of ordinary skill in the art in 2002 . . . ." Declaration of Dr. De La Ree, Paragraph 8. Since independent Claim 57 is allowable as presented herein, dependent Claims 58-59 also traverse the rejections for obviousness.

Dependant Claims 29-35, 37, 40-44, 51-52, 54, and 58-59 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Garner '182 or Reilly '859 alone or combination with a secondary reference. However, the Examiner has failed to provide any "reason that would have

prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does.” KSR, 127 S. Ct. at 1741. Accordingly, Applicants submit these dependent claims are patentable over the cited references.

As stated in the Declaration of Dr. De La Ree, “[o]ver the years, cross-arms for utility poles for use in low to medium voltage electricity distribution and transmission have been made of wood, primarily because of the risk of electrocution to birds and other animals that may encounter the cross-arm of utility poles. Electrocution of birds has been of particular focus because of the risk of causing fires and electrical outages that can result, as well as harm to the birds. Indeed, as noted in the references cited herewith, utility companies have been criminally prosecuted for electrocution of raptors by power lines. *See, Raptor Electrocutions and Distribution Pole Types*, at p. 3. For these reasons, elaborate mechanisms and systems have been designed and used to try to avoid birds sitting on the cross-arms of utility poles used in low to medium voltage electricity distribution and transmission, and to otherwise avoid the birds perching on the cross-arms of utility poles. *See, for example, Suggested Practices for Raptor Protection on Power Lines: the state of the art in 1996.*” Declaration of Dr. Jaime De La Ree, Paragraph 5.

A host of different configurations for utility pole cross arms have been devised and some are now mandated as part of permitting and licensing requirements by most federal agencies in the United States. *See, Suggested Practices for Raptor Protection on Power Lines: The State of the Art in 1996.* These designs have included ground steel bayonets (e.g., Figure 24 at 60), grounded steel cross arms with exposed jumper wires (e.g., Figure 25 at 61), non-conducting extension links (e.g., Figure 26 at 62), anti-perch guards to discourage perching (e.g., Figures 29 and 30 at 66-67), elevated perches with perch guards (e.g., Figure 23 at 59), insulated wire covers (e.g., Figure 21 at 56), side mounting eliminating the cross-arm (e.g., Figure 31 at 69), providing an insulated pole top or upper perch bar with insulated or covered jumper wires (e.g., Figures 30, 31 and 35 at 67, 69 and 74), raptor-safe compact and suspending designs (e.g., Figures 33 and 34 at 72 and 73), and suspended phase conductors allowing safe perching on pole top and cross-arms (e.g., Figure 37 at 76).

Dr. De La Ree concludes: “In view of the history in the art, the cross-arm for a utility pole for use in low to medium voltage electricity distribution and transmission claimed in the Application No. 10/614,740 was not obvious to a person of ordinary skill in the art in 2002,

when the application was filed, in view of the art of which I am aware. It was also counter intuitive to a person, like me, of more than ordinary skill in the art in 2002.” Declaration of Dr. De La Ree, Paragraph 7. If the teachings of those skilled in the art are considered, as they must be, it is certain that the presently claimed subject matter was **not** obvious to those of ordinary skill in the art. *See* Declaration of Dr. De La Ree, Paragraph 6. One looking in 2002 for a solution to the problem in utility pole cross-arms that has been a tradition in low to medium voltage power distribution and transmission would not consider the ‘182 patent to Garner or the ‘859 patent to Reilly et al. Declaration of Dr. De La Ree, Paragraphs 16, 22. See also, In re Beattie, 974 F.2d 1309, 1313, 24 U.S.P.Q.2d 1040, 1042-43 (Fed. Cir. 1992) (Office personnel should consider declarations from those skilled in the art praising the claimed invention and opining that the art teaches away from the invention.); MPEP § 2145.

The evidence is overwhelming as to the nature of the problem, and the extent to which the art has gone to try to solve the problem. Moreover, nowhere is the elegant solution to the problem provided by the presently claimed invention disclosed or suggested. This is the strongest and most persuasive evidence of the non-obviousness of the present invention. As instructed by the Manual of Patent Examining Procedure, “Objective evidence relevant to the issue of obviousness must be evaluated by Office personnel,” including secondary considerations, such as “long-felt but unsolved needs, failure of others, and unexpected results.” MPEP § 2141, citing Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 U.S.P.Q. 459, 467 (1966).

The cited secondary references add nothing to Garner ‘182 to support the rejections of the dependant claims. Dr. De La Ree states: “The ‘359 patent does not provide any information either alone or in combination with the disclosure of the Garner ‘182 patent that would relate to a dielectric coating or the strength thereof for utility pole cross-arms in low to medium voltage electricity distribution and transmission systems.” Declaration of Dr. De La Ree, Paragraph 12. “The ‘623 patent does not provide any information considered alone or together with the disclosure of the Garner ‘182 patent that would relate to a cross-arm for a utility pole in low to medium voltage electricity distribution and transmission systems having an electrolytic powder coating of polymeric material, such as thermoplastic or epoxy.” *Id.*, Paragraph 13. “The ‘416 patent does not provide any information, considered either alone or in combination with the disclosure of the Garner ‘182 patent, that would relate to coating a cross-arm for a utility pole in

a low to medium voltage electricity distribution and transmission system with nylon.” *Id.*, Paragraph 14. “The ‘872 patent does not provide any information, considered either alone or in combination with the disclosure of the Garner ‘182 patent, that would relate to a cross-arm for a utility pole in a low to medium voltage electricity distribution and transmission system having an electrically insulating material located between the utility pole and the cross-arm.” *Id.*, Paragraph 15.

“If one were looking in 2002 for a solution to the problem in utility pole cross-arms that has been a tradition in low to medium voltage power distribution and transmission, one would not view the Garner ‘182 patent, alone or in combination with U.S. Patent 5,909,359 to Summers et al., U.S. Patent 5,888,623 to Katzer, U.S. Patent 5,595,416 to Horwill, and German Patent 2352872 to Volpone, as helpful in solving the problem addressed by the ‘740 application.” Declaration of Dr. De La Ree, Paragraph 16.

Additionally, the cited secondary references add nothing to Reilly ‘859 to support the rejections of the dependant claims. As stated by Dr. De La Ree: “The ‘570 patent does not provide any information in combination with the disclosure of the Reilly ‘859 patent that would relate to a dielectric coating or the strength thereof for a cross-arm for a utility pole in low to medium voltage electricity distribution and transmission systems.” Declaration of Dr. De La Ree, Paragraph 18. “The Sagawa ‘271 patent does not provide any information in combination with the disclosure of the Reilly ‘859 patent that would relate to a cross-arm for a utility pole in a low to medium voltage electricity distribution and transmission system having a polymeric material coating.” *Id.*, Paragraph 19. “The ‘602 application does not provide any information either alone or in combination with the disclosure of the Reilly ‘859 patent that would relate to coating a cross-arm for a utility pole in a low to medium voltage electricity distribution and transmission system with a polymeric material.” *Id.*, Paragraph 20. “The ‘576 patent does not provide any information in combination with the disclosure of the Reilly ‘859 patent that would relate to coating of a cross-arm for a utility pole in a low to medium voltage electricity distribution and transmission system with a polymeric material coating, such as a nylon, a thermoplastic, or an epoxy.” *Id.*, Paragraph 21.

“If one were looking in 2002 for a solution to the problem in utility pole cross-arms that has been a tradition in low to medium voltage power distribution and transmission, one would



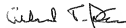
not view the Reilly '859 patent, alone or in combination with U.S. Patent Nos. 3,803,570 to Barlow et al., Japan Patent 41121271A to Sagawa et al., U.S. Published Application No. 2004/0035602 to White, or 6,146,576 to Blackmore, as helpful in solving the problem addressed by the '740 application." Declaration of Dr. Jaime De La Ree, Paragraph 22.

### **Conclusion**

Applicants respectfully submit that independent Claims 28, 36, 53, and 57 are allowable as presented herein. Accordingly, as dependent Claims 29-35, 37-44, 54-56, and 58-59 are dependent on Claims 28, 36, 53, and 57 respectively, the foregoing arguments traverse the rejections of Claims 29-35, 37-44, 54-56, and 58-59.

In view of the attached Declaration of Dr. Jaime De La Ree and the foregoing arguments, Applicants respectfully submit that Claims 28-44 and 53-59 are in condition for allowance. Applicants encourage the Examiner to call their counsel, Arland T. Stein, at 614-233-5104 to resolve any additional questions that the Examiner may have to place the claims in condition for allowance.

Respectfully submitted,



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